Journal Article Analysis

After reading several articles in my field, I choose one of them as an example to analyze, that may help the fresh students better understand the content and the structure of academic papers. “Low-calcium diet prevents fructose-induced hyperinsulinemia and ameliorates the response to glucose load in rats”, is written by Anna Voznesenskaya and Michael G. Tordoff, published in the *Journal of Nutrition and Metabolism*, 2015. This article mainly focuses on the effect of the consumption of calcium and carbohydrate on insulin sensitivity in the rat.

According to Swales and Feak (2012), “the introduction of an article should include 3 moves in order to response to competition for readers and research space.” In my analyzed article, the first move is mentioned after indicating the sugary drink and snacks as the main sources of fructose. The author described the popularity of this topic and cited “A general increase in sweetener usage during the last decades of the 20th century, and the popularity of high-fructose corn syrups, fructose consumption in the USA has risen by over 25% (Havel PJ, 2005)” (n.p.). In addition, the authors also provided some former research study to support their view. For example, the authors cited “The deleterious effects of excess consumption of simple sugars on carbohydrate metabolism are well recognized, with contributions made by both the quantity and the type of sugar consumed (Gross LS, Li L, Ford ES and Liu S, 2004)” (n.p.). Mentioning previous research could make audiences understand the most advance on relevant research. Finally, the authors point out that this article aims to provide some useful information for the future research on the related study. (Voznesenskaya and Tordoff, 2015) (n.p.) Although there are a lot of research about the relationship between the calcium and insulin metabolism, Voznesenskaya and Tordoff (2015) noted that there is still a gap about the influence of calcium on the regular metabolism when the intake of sugar over the recommendation level. (n.p.). Nutrition is still a new discipline, through this three move, the audience could better know the most recent results about this field and which part still need to be improved.

As an article of human health science, Voznesenskaya and Tordoff organizes this article in accord with the rules of research paper format published in *Journal of Nutrition and metabolism*. This article uses the titles and subtitles to clearly classify every part of this research. It includes Abstract, Background, Methods, Conclusions and Result. Each of the parts describes the information of the research process in details. At first, the authors raise some previous research that lead to a potential hypothesis: the low-calcium diet may reduce the risk of hyperinsulinemia under the situation of overconsumption in fructose. In order to prove this possibility, the authors designed an animal experiment. In the methods part, the authors introduce that they use the two groups of 36 rats each as the test subject and the measure methods for each related factors. According to other research results, the authors observe the influence of calcium on insulin sensitivity by the factors of body weight, food intake, fasting blood glucose and insulin tolerance. Finally, this article uses the ANOVAs to analyze the data and shows some graphs to help readers understand the difference between the physical activity of low-calcium and calcium-replete.

The authors cite others research through the American Psychological Association format and most of the sentences use their own words. For example, Voznesenskaya and Tordoff (2015) “Diet has a major impact on metabolic health, and is a primary factor implicated in metabolic syndrome and Type 2 diabetes (Gross LS, Li L, Ford ES and Liu S, 2004).” (n.p.) Through analyzing this article, I think it is easier for me to gain the information about my field in the future study.

**Reference:**

1. Havel PJ. Dietary fructose: implications for dysregulation of energy homeostasis and lipid/carbohydrate metabolism. Nutr Rev. 2005;63(5):133–57.
2. Gross LS, Li L, Ford ES, Liu S. Increased consumption of refined carbohydrates and the epidemic of type 2 diabetes in the United States: an ecologic assessment. Am J Clin Nutr. 2004;79(5):774–9.
3. Voznesenskaya, A., & Tordoff, M. G. (2015). Low-calcium diet prevents fructose-induced hyperinsulinemia and ameliorates the response to glucose load in rats. Nutrition & metabolism, 12(1), 1.
4. Swales, J. M., & Feak, C. B. (2004). Academic writing for graduate students: Essential tasks and skills (Vol. 1). Ann Arbor, MI: University of Michigan Press.